

REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

An Information Disclosure Statement was filed on February 2, 2005. Please now consider that Information Disclosure Statement and return an initialed and dated copy of the Form PTO-1449 with the next Official Communication.

The Examiner cited Application No. 10/669,599 and Patent No. 6,790,025 against the pending claims. However, neither the noted application nor the noted patent were listed on the Examiner's Form 892. Therefore, to complete the record, a Form PTO-1449 is attached which lists the '025 patent and the publication of the '599 application (2004/0062828). It is respectfully requested that the Examiner initial the herewith Form PTO-1449 so that these citations made by the Examiner will be a part of the official record.

Claims 1-16 are now pending.

Original claims 1, 5-7, and 9-12 were rejected under 35 USC 103(a) as being anticipated by [sic; obvious from] Ito in view of Inoguchi. Applicant respectfully traverses this rejection.

The present invention relates to an extrusion molding apparatus for molding a ceramic molded product. A feature of the present invention is that the extruding screw 40 of the molding apparatus includes a pressing screw portion 410 and a dispersing screw portion 420, the dispersing screw portion being arranged adjacent to the forward end of the pressing screw portion, with a peripheral (circumferential) gap defined between the forward end of the thread(s) of the pressing screw portion and the rear end of the thread(s) of the dispersing portion. The pressing screw portion 410 presses the ceramic material with the leading surface of the lead thereof and advances the

pressed ceramic material towards the shaping die. The dispersing screw portion is provided to disperse and homogenize the ceramic material with the lead(s) thereof.

In contrast to the invention disclosed by applicant as claimed hereinabove, Ito provides at reference numeral 22 a dulmage type mixing structure. Reference numeral 17 identifies the introduction opening for a polymer and reference numeral 18 identifies a solvent feed opening. Accordingly, Ito et al does not disclose a dispersing screw portion as required by applicant's claims. Furthermore, Ito et al does not disclose or in any way suggest a gap in a peripheral direction at a juncture of first and second screw portions as required by applicant's independent claims.

The Examiner notes that Ito is disclosed as used in the production of polymer fibers but notes that Inoguchi discloses an extrusion screw and asserts that it would be "obvious" to modify Ito's screw apparatus to handle ceramic mold mixtures as indicated in Inoguchi. Applicant respectfully disagrees. Indeed, Ito is specifically designed for the production of polymer fibers as evidenced by the provision of polymer and solvent feed openings and the dulmage type mixing structure. The skilled artisan, in the absence of applicant's disclosure, would not use Ito for the production of ceramic molded materials in view of Inoguchi. Rather, Ito's apparatus would be used for the production of polymer fibers and Inoguchi's structure would be used for the production of ceramic molded materials. It is therefore respectfully submitted that the skilled artisan would not combine Ito and Inoguchi as the Examiner has suggested.

Even if ceramic materials were added to Ito so that Ito is used for the production of ceramic molded materials, the invention claimed would still not be anticipated nor obvious in view of the deficiencies of Ito with respect to applicant's claims noted above. Indeed, although Ito illustrates an extrusion type screw having different segments along the length thereof, the respective segments of Ito are not disclosed as or characterized as providing a peripheral gap between respective leading and rear ends of leads thereof. Furthermore, sections 22 are dulmage type mixing structures and thus

do not include a lead structure as claimed. Moreover, the sections of Ito are illustrated as having an axial gap therebetween which is contrary to new dependent claim 14.

Inoguchi also fails to teach or suggest the structure claimed. Indeed, in this regard Inoguchi simply teaches a continuously threaded screw extruder structure. Therefore, neither Ito nor Inoguchi either singly or in combination anticipates or renders obvious the claimed invention.

Claims 1-12 were provisionally rejected under the judicially created doctrine of double patenting over claims 1-16 of copending Application No. 10/669,599. Applicant respectfully traverses this rejection.

Copending Application 10/669,599 does not disclose a gap in a peripheral direction as disclosed and claimed in the present application and in the embodiments thereof a pressure screw part 21 is spaced apart in an axial direction from a diffusion screw part 24 and the diffusion screw part has a screw diameter larger than that of the pressure screw part. Clearly, therefore, the subject matter claimed in the present application is not fully disclosed in the referenced copending application and the Examiner has not established that the subject matter claimed in the present application would be covered by a patent granted on the copending application. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Claims 1-12 were also rejected under the judicially created doctrine of double patenting over claims 1-13 of U.S. Patent No. 6,790,025. Applicant respectfully traverses this rejection.


The '025 patent discloses an extruding screw including a pressing screw portion, a kneading screw portion and a leading screw portion. The '025 patent does not, however, disclose a continuous screw assembly. In contrast, in the present invention, a substantially continuous screw pitch is provided but screw portions have a gap in a peripheral direction thereof. Inasmuch as the '025 patent does not teach or suggest a

gap in a peripheral direction as disclosed and claimed herein, it is respectfully submitted that the Examiner has not established that the present application would improperly extend the right to exclude granted in the '025 patent. Moreover, the Examiner has not established that the subject matter claimed in the present application is fully disclosed in the '025 patent. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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